**Universidad de las Fuerzas Armadas ESPE Sede Latacunga**

Carrera de Electrónica y Automatización

Departamento de Eléctrica – Electrónica



**MATEMÁTICA FINANCIERA**

**Tema:**

**CUESTIONARIO II.**

**SEGUNDA UNIDAD**

**INTEGRANTES:**

• ALEX IZA

• AXCEL IZA

• EDISON YUPANGUI

• HAROLD SORIA

**DOCENTE:** ING. SERGIO FABRICIO TRUJILLO SANCHEZ

**MAYO 2021/SEPTIEMBRE 2021**

**25. Una persona realiza un préstamo de $8000 para un año con una tasa de interés del 25% convertible mensualmente. Realizar la tabla de amortización por el método Inglés.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Monto del crédito: | $8.000,00 |  | **# Pago** | **Pago Interés** | **Pago Capital** | **Saldo** |
| Tasa de interés (anual): | 25% |  | 1 | $166,67 | $593,69 | $7.406,31 |
| Número de pagos (mensuales): | 12 |  | 2 | $154,30 | $606,06 | $6.800,26 |
| Pago (mensual): | $760,35 |  | 3 | $141,67 | $618,68 | $6.181,58 |
|  |  |  | 4 | $128,78 | $631,57 | $5.550,01 |
|  |  |  | 5 | $115,63 | $644,73 | $4.905,28 |
|  |  |  | 6 | $102,19 | $658,16 | $4.247,12 |
|  |  |  | 7 | $88,48 | $671,87 | $3.575,24 |
|  |  |  | 8 | $74,48 | $685,87 | $2.889,37 |
|  |  |  | 9 | $60,20 | $700,16 | $2.189,22 |
|  |  |  | 10 | $45,61 | $714,74 | $1.474,47 |
|  |  |  | 11 | $30,72 | $729,64 | $744,84 |
|  |  |  | 12 | $15,52 | $744,84 | $0,00 |

**26. Una persona compra un teléfono celular $1200 en un local comercial para pagar mensualmente durante un año al 9.35% de interés utilizar el Método Francés. a)Cuáles son los pagos mensuales que bebe realizarse. b) Al cabo de tres meses decide abonar $150 cuál es su nuevo plazo y el valor de las cuotas. c) realizado 4 pagos del literal b) decide abonar $120 cuál es su nuevo plazo y el valor de las cuotas Cuáles son los pagos mensuales que bebe realizarse.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Núm. | Pago | Principal | Interés | Balance del préstamo |
|  |  |  |  | **$1,200** |
| 1 | **$105.14** | **$95.79** | **$9.35** | **$1,104.21** |
| 2 | **$105.14** | **$96.54** | **$8.60** | **$1,007.67** |
| 3 | **$105.14** | **$97.29** | **$7.85** | **$910.38** |
| 4 | **$105.14** | **$98.05** | **$7.09** | **$812.33** |
| 5 | **$105.14** | **$98.81** | **$6.33** | **$713.52** |
| 6 | **$105.14** | **$99.58** | **$5.56** | **$613.94** |
| 7 | **$105.14** | **$100.36** | **$4.78** | **$513.58** |
| 8 | **$105.14** | **$101.14** | **$4.00** | **$412.44** |
| 9 | **$105.14** | **$101.93** | **$3.21** | **$310.51** |
| 10 | **$105.14** | **$102.72** | **$2.42** | **$207.79** |
| 11 | **$105.14** | **$103.52** | **$1.62** | **$104.27** |
| 12 | **$105.08** | **$104.27** | **$0.81** | **$0.00** |

**b) Al cabo de tres meses decide abonar $150 cuál es su nuevo plazo y el valor de las cuotas**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Núm. | Pago | Principal | Interés | Balance del préstamo |
|  |  |  |  | $760 |
| 1 | $87.77 | $81.85 | $5.92 | $678.15 |
| 2 | $87.77 | $82.49 | $5.28 | $595.66 |
| 3 | $87.77 | $83.13 | $4.64 | $512.53 |
| 4 | $87.77 | $83.78 | $3.99 | $428.75 |
| 5 | $87.77 | $84.43 | $3.34 | $344.32 |
| 6 | $87.77 | $85.09 | $2.68 | $259.23 |
| 7 | $87.77 | $85.75 | $2.02 | $173.48 |
| 8 | $87.77 | $86.42 | $1.35 | $87.06 |
| 9 | $87.74 | $87.06 | $0.68 | $0.00 |

**c) realizado 4 pagos del literal b) decide abonar $120 cuál es su nuevo plazo y el valor de las cuotas**

**o**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Núm. | Pago | Principal | Interés | Balance del préstamo |
|  |  |  |  | **$308** |
| 1 | **$63.05** | **$60.65** | **$2.40** | **$247.35** |
| 2 | **$63.05** | **$61.12** | **$1.93** | **$186.23** |
| 3 | **$63.05** | **$61.60** | **$1.45** | **$124.63** |
| 4 | **$63.05** | **$62.08** | **$0.97** | **$62.55** |
| 5 | **$63.04** | **$62.55** | **$0.49** | **$0.00** |

**27. Una persona realiza un préstamo de $90000 para 20 años a una tasa de interés del 11% convertible mensualmente, la misma que es diferida 2 años. Realizar la tabla de amortización. (Amortizar con el Método Alemán)**

|  |  |
| --- | --- |
| Monto del crédito: | $90.000,00 |
| Tasa de interés (anual): | 11% |
| Número de pagos (mensuales): | 240 |
| Pago (mensual): | $928,97 |

|  |  |  |  |
| --- | --- | --- | --- |
| **# Pago** | **Pago Interés** | **Pago Capital** | **Saldo** |
| 1 | $825,00 | $103,97 | $89.896,03 |
| 2 | $824,05 | $104,92 | $89.791,11 |
| 3 | $823,09 | $105,88 | $89.685,22 |
| 4 | $822,11 | $106,86 | $89.578,37 |
| 5 | $821,14 | $107,83 | $89.470,53 |
| 6 | $820,15 | $108,82 | $89.361,71 |
| 7 | $819,15 | $109,82 | $89.251,89 |
| 8 | $818,14 | $110,83 | $89.141,06 |
| 9 | $817,13 | $111,84 | $89.029,22 |
| 10 | $816,10 | $112,87 | $88.916,35 |
| 11 | $815,07 | $113,90 | $88.802,45 |
| 12 | $814,02 | $114,95 | $88.687,50 |
| 13 | $812,97 | $116,00 | $88.571,50 |
| 14 | $811,91 | $117,06 | $88.454,44 |
| 15 | $810,83 | $118,14 | $88.336,30 |
| 61 | $749,21 | $179,75 | $81.552,79 |
| 62 | $747,57 | $181,40 | $81.371,38 |
| 63 | $745,90 | $183,07 | $81.188,32 |
| 64 | $744,23 | $184,74 | $81.003,58 |
| 65 | $742,53 | $186,44 | $80.817,14 |
| 66 | $740,82 | $188,15 | $80.628,99 |
| 67 | $739,10 | $189,87 | $80.439,12 |
| 68 | $737,36 | $191,61 | $80.247,51 |
| 69 | $735,60 | $193,37 | $80.054,14 |
| 70 | $733,83 | $195,14 | $79.859,00 |
| 71 | $732,04 | $196,93 | $79.662,08 |
| 72 | $730,24 | $198,73 | $79.463,34 |
| 73 | $728,41 | $200,56 | $79.262,79 |
| 74 | $726,58 | $202,39 | $79.060,39 |
| 75 | $724,72 | $204,25 | $78.856,14 |
| 76 | $722,85 | $206,12 | $78.650,02 |
| 77 | $720,96 | $208,01 | $78.442,01 |
| 78 | $719,05 | $209,92 | $78.232,09 |
| 79 | $717,13 | $211,84 | $78.020,25 |
| 80 | $715,19 | $213,78 | $77.806,47 |
| 81 | $713,23 | $215,74 | $77.590,72 |
| 82 | $711,25 | $217,72 | $77.373,00 |
| 83 | $709,25 | $219,72 | $77.153,28 |
| 84 | $707,24 | $221,73 | $76.931,55 |
| 85 | $705,21 | $223,76 | $76.707,79 |
| 86 | $703,15 | $225,81 | $76.481,97 |
| 87 | $701,08 | $227,88 | $76.254,09 |
| 88 | $699,00 | $229,97 | $76.024,12 |
| 89 | $696,89 | $232,08 | $75.792,03 |
| 90 | $694,76 | $234,21 | $75.557,83 |
| 91 | $692,61 | $236,36 | $75.321,47 |
| 92 | $690,45 | $238,52 | $75.082,95 |
| 93 | $688,26 | $240,71 | $74.842,24 |
| 94 | $686,05 | $242,92 | $74.599,32 |
| 95 | $683,83 | $245,14 | $74.354,18 |
| 96 | $681,58 | $247,39 | $74.106,79 |
| 97 | $679,31 | $249,66 | $73.857,13 |
| 98 | $677,02 | $251,95 | $73.605,19 |
| 99 | $674,71 | $254,26 | $73.350,93 |
| 100 | $672,38 | $256,59 | $73.094,34 |
| 101 | $670,03 | $258,94 | $72.835,41 |
| 102 | $667,66 | $261,31 | $72.574,10 |
| 103 | $665,26 | $263,71 | $72.310,39 |
| 104 | $662,85 | $266,12 | $72.044,26 |
| 105 | $660,41 | $268,56 | $71.775,70 |
| 196 | $312,84 | $616,13 | $33.512,02 |
| 197 | $307,19 | $621,78 | $32.890,24 |
| 198 | $301,49 | $627,48 | $32.262,76 |
| 199 | $295,74 | $633,23 | $31.629,54 |
| 200 | $289,94 | $639,03 | $30.990,50 |
| 201 | $284,08 | $644,89 | $30.345,61 |
| 202 | $278,17 | $650,80 | $29.694,81 |
| 203 | $272,20 | $656,77 | $29.038,05 |
| 204 | $266,18 | $662,79 | $28.375,26 |
| 205 | $260,11 | $668,86 | $27.706,40 |
| 206 | $253,98 | $674,99 | $27.031,40 |
| 207 | $247,79 | $681,18 | $26.350,22 |
| 208 | $241,54 | $687,43 | $25.662,79 |
| 209 | $235,24 | $693,73 | $24.969,07 |
| 210 | $228,88 | $700,09 | $24.268,98 |
| 211 | $222,47 | $706,50 | $23.562,48 |
| 212 | $215,99 | $712,98 | $22.849,50 |
| 213 | $209,45 | $719,52 | $22.129,98 |
| 214 | $202,86 | $726,11 | $21.403,87 |
| 215 | $196,20 | $732,77 | $20.671,10 |
| 216 | $189,49 | $739,48 | $19.931,62 |
| 217 | $182,71 | $746,26 | $19.185,35 |
| 218 | $175,87 | $753,10 | $18.432,25 |
| 219 | $168,96 | $760,01 | $17.672,24 |
| 220 | $162,00 | $766,97 | $16.905,27 |
| 221 | $154,96 | $774,00 | $16.131,26 |
| 222 | $147,87 | $781,10 | $15.350,16 |
| 223 | $140,71 | $788,26 | $14.561,90 |
| 224 | $133,48 | $795,49 | $13.766,42 |
| 225 | $126,19 | $802,78 | $12.963,64 |
| 226 | $118,83 | $810,14 | $12.153,51 |
| 227 | $111,41 | $817,56 | $11.335,94 |
| 228 | $103,91 | $825,06 | $10.510,89 |
| 229 | $96,35 | $832,62 | $9.678,27 |
| 230 | $88,72 | $840,25 | $8.838,01 |
| 231 | $81,02 | $847,95 | $7.990,06 |
| 232 | $73,24 | $855,73 | $7.134,33 |
| 233 | $65,40 | $863,57 | $6.270,76 |
| 234 | $57,48 | $871,49 | $5.399,27 |
| 235 | $49,49 | $879,48 | $4.519,80 |
| 236 | $41,43 | $887,54 | $3.632,26 |
| 237 | $33,30 | $895,67 | $2.736,59 |
| 238 | $25,09 | $903,88 | $1.832,70 |
| 239 | $16,80 | $912,17 | $920,53 |
| 240 | $8,44 | $920,53 | $0,00 |

**28. Una persona realiza un préstamo de $8000 para un año con una tasa de interés del 25% convertible mensualmente. Realizar la tabla de amortización por el método Inglés.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Monto del crédito: | $8.000,00 |  | **# Pago** | **Pago Interés** | **Pago Capital** | **Saldo** |
| Tasa de interés (anual): | 25% |  | 1 | $166,67 | $593,69 | $7.406,31 |
| Número de pagos (mensuales): | 12 |  | 2 | $154,30 | $606,06 | $6.800,26 |
| Pago (mensual): | $760,35 |  | 3 | $141,67 | $618,68 | $6.181,58 |
|  |  |  | 4 | $128,78 | $631,57 | $5.550,01 |
|  |  |  | 5 | $115,63 | $644,73 | $4.905,28 |
|  |  |  | 6 | $102,19 | $658,16 | $4.247,12 |
|  |  |  | 7 | $88,48 | $671,87 | $3.575,24 |
|  |  |  | 8 | $74,48 | $685,87 | $2.889,37 |
|  |  |  | 9 | $60,20 | $700,16 | $2.189,22 |
|  |  |  | 10 | $45,61 | $714,74 | $1.474,47 |
|  |  |  | 11 | $30,72 | $729,64 | $744,84 |
|  |  |  | 12 | $15,52 | $744,84 | $0,00 |

**29. Se realiza un crédito automotriz con 7 pagos semestrales de 15000 cada uno, realizando el primero el primer día de la compra y 30 mensualidades intercaladas de 5200 cada una cuál es el precio de contado del vehículo a una tasa de interés de 13,44 % anual capitalizable mensualmente b) valor pagado en el quinceavo mes.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Núm. | Pago | Principal | Interés | Balance del préstamo |
|  |  |  |  | $1,000 |
| 1 | $39.43 | $28.23 | $11.20 | $971.77 |
| 2 | $39.43 | $28.55 | $10.88 | $943.22 |
| 3 | $39.43 | $28.87 | $10.56 | $914.35 |
| 4 | $39.43 | $29.19 | $10.24 | $885.16 |
| 5 | $39.43 | $29.52 | $9.91 | $855.64 |
| 6 | $39.43 | $29.85 | $9.58 | $825.79 |
| 7 | $39.43 | $30.18 | $9.25 | $795.61 |
| 8 | $39.43 | $30.52 | $8.91 | $765.09 |
| 9 | $39.43 | $30.86 | $8.57 | $734.23 |
| 10 | $39.43 | $31.21 | $8.22 | $703.02 |
| 11 | $39.43 | $31.56 | $7.87 | $671.46 |
| 12 | $39.43 | $31.91 | $7.52 | $639.55 |
| 13 | $39.43 | $32.27 | $7.16 | $607.28 |
| 14 | $39.43 | $32.63 | $6.80 | $574.65 |
| 15 | $39.43 | $32.99 | $6.44 | $541.66 |
| 16 | $39.43 | $33.36 | $6.07 | $508.30 |
| 17 | $39.43 | $33.74 | $5.69 | $474.56 |
| 18 | $39.43 | $34.11 | $5.32 | $440.45 |
| 19 | $39.43 | $34.50 | $4.93 | $405.95 |
| 20 | $39.43 | $34.88 | $4.55 | $371.07 |
| 21 | $39.43 | $35.27 | $4.16 | $335.80 |
| 22 | $39.43 | $35.67 | $3.76 | $300.13 |
| 23 | $39.43 | $36.07 | $3.36 | $264.06 |
| 24 | $39.43 | $36.47 | $2.96 | $227.59 |
| 25 | $39.43 | $36.88 | $2.55 | $190.71 |
| 26 | $39.43 | $37.29 | $2.14 | $153.42 |
| 27 | $39.43 | $37.71 | $1.72 | $115.71 |
| 28 | $39.43 | $38.13 | $1.30 | $77.58 |
| 29 | $39.43 | $38.56 | $0.87 | $39.02 |
| 30 | $39.46 | $39.02 | $0.44 | $0.00 |

**30. Una persona contrae una deuda de $1000 bajo una tasa de interés del 12% anual convertible mensualmente la deuda debe saldarse en un año haciendo pagos mensuales y el primero se realizará dentro de un mes. Con pagos extras de $1000 a 6 meses, $1500 a 9 meses, $1000 a 12 meses. Calcular el valor del pago mensual, la tabla de amortización, cuál es el valor pagado y la deuda en el décimo pago.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Núm. | Pago | Principal | Interés | Balance del préstamo |
|  |  |  |  | $1,000 |
| 1 | $88.85 | $78.85 | $10.00 | $921.15 |
| 2 | $88.85 | $79.64 | $9.21 | $841.51 |
| 3 | $88.85 | $80.43 | $8.42 | $761.08 |
| 4 | $88.85 | $81.24 | $7.61 | $679.84 |
| 5 | $88.85 | $82.05 | $6.80 | $597.79 |
| 6 | $88.85 | $82.87 | $5.98 | $514.92 |
| 7 | $88.85 | $83.70 | $5.15 | $431.22 |
| 8 | $88.85 | $84.54 | $4.31 | $346.68 |
| 9 | $88.85 | $85.38 | $3.47 | $261.30 |
| 10 | $88.85 | $86.24 | $2.61 | $175.06 |
| 11 | $88.85 | $87.10 | $1.75 | $87.96 |
| 12 | $88.84 | $87.96 | $0.88 | $0.00 |